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TECHNOLOGY GROUP

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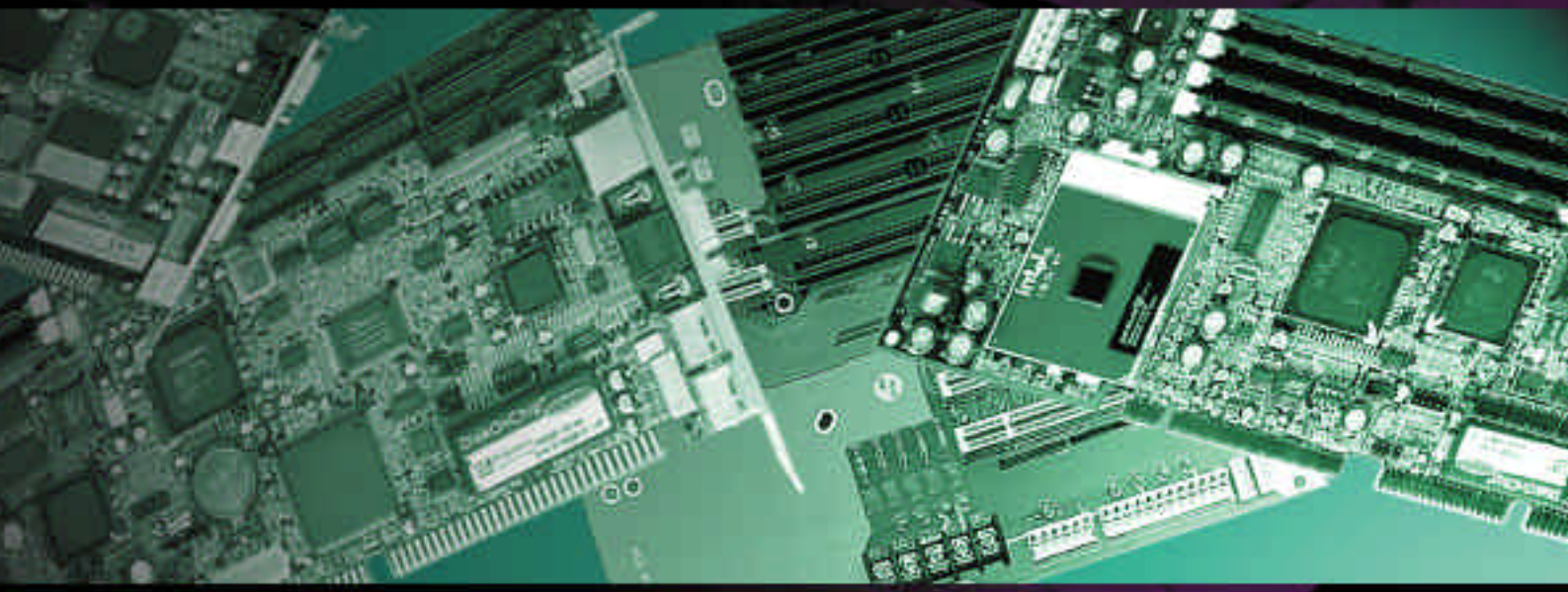
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Find the *Portwell ROBO-698* at our website: *Click HERE*

PRODUCT GUIDE



Simply The Best SBC !

Ver.20D

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Single Board Computer Quick Reference Table

Model	ROBO-698	ROBO-658	ROBO-638	ROBO-608	ROBO-598
CPU/Max.	Celeron/600MHz FC-PGA/800MHz	Celeron/600MHz Pentium III FC-PGA /1GHz	Klamath/333MHz Pentium II/450MHz Pentium III/800MHz	Celeron/600MHz FC-PGA/800MHz	P55C/266MHz AMD K6/450MHz Cyrix M1/M2/450MHz
Front Side Bus	66/100MHz	66/100/133MHz	66/100MHz	66/100MHz	66/100MHz
Cache	Built-in CPU	Built-in CPU	Built-in CPU	Built-in CPU	512KB Pipeline
Max. Memory	DIMMx4/1GB	DIMMx2/256MB	DIMMx4/1GB	DIMMx4/1GB	DIMMx3/768MB
Memory Type	SDRAM	SDRAM	SDRAM	SDRAM	EDO/SDRAM
ECC	YES	YES	YES	YES	NO
BIOS	AMI	AMI	AMI	AMI	AMI
Chipset	Intel 82440BX	Intel 810e	Intel 82440BX	Intel 82440BX	ALi M1541/1543C
DiskOnChip	Max. 144MB	Max. 144MB	Max. 144MB	Max. 144MB	Max. 144MB
PC-104	YES	NO	NO	YES	NO
VGA/Panel	C&T 69000 / YES	GMCH built-in	ATI Rage Pro AGP	C&T 69000 /YES	ATI Rage Pro AGP
SCSI	NO	AIC-7982 Ultra III	AIC-7890 Ultra II	NO	NO
HDD Channel	EIDEx2	EIDEx2 DMA/33/66	EIDEx2	EIDEx2	EIDEx2
FDD Drivers	2	2	2	2	2
Ethernet	NO	10/100Base-T	10/100Base-T	NO	NO
USB Port	2	2	2	2	2
ATX control	YES	YES	YES	YES	YES
On Board I/O	W83977ATF	W83627HF	W83977ATF	W83977ATF	Built-in Chipset
Serial Port	2	2	2	2	2
Parallel Port	1	1	1	1	1
PS/2 K/B	YES	YES	YES	YES	YES
PS/2 Mouse	YES	YES	YES	YES	YES
WDT	YES	YES	YES	YES	YES
IrDA	YES	YES	YES	YES	YES
Dimension	338.5(L) x 122(W)	338.5(L) x 122(W)	339(L) x 122(W)	338.5(L) x 122(W)	339(L) x 122(W)
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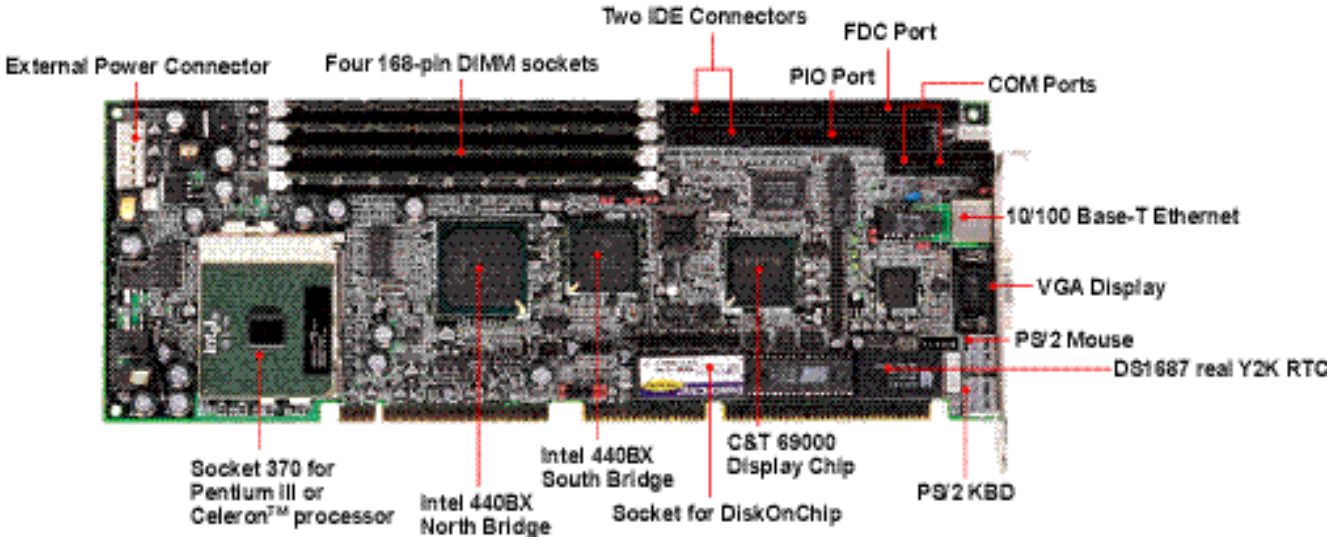
Model	ROBO-578	ACTI-888	ACTI-788	ACTI-688	ACTI-648L
CPU/Max.	P55C/266MHz AMD K6/400MHz Cyrix M1/M2/400MHz	Dual-processor (Slot 2) Pentium III/800 MHz	Dual-processor Celeron /600MHz	Dual-processor (Slot 1) Pentium III/800 MHz	Unit-processor (Slot 1) Pentium III/800 MHz
Front Side Bus	66/83.3MHz	100MHz	66/100MHz	66/100MHz	66/100MHz
Cache	512KB Pipeline	Built-in CPU	Built-in CPU	Built-in CPU	Built-in CPU
Max. Memory	DIMMx2/256MB	2GB	1GB	1GB	512MB
Memory Type	EDO/SDRAM	SDRAM	SDRAM	SDRAM	SDRAM
ECC	YES	YES	YES	YES	YES
BIOS	AMI	AMI	AMI	AMI	AMI
Chipset	ALi M1541/1543C	Intel 440GX	Intel 440BX	Intel 440BX	Intel 440BX
DiskOnChip	NO	Max. 144MB	Max. 144MB	Max. 144MB	Max. 144MB
PC-104	NO	NO	NO	NO	NO
VGA/Panel	C&T 69000 / YES	GMCH built-in	ATI Rage Pro AGP	C&T 69000 /YES	ATI Rage Pro AGP
SCSI	AIC-7800UW	NO	NO	NO	NO
HDD Channel	EIDEx2	2	2	2	2
FDD Drivers	2	2	2	2	2
Ethernet	10/100Base-T	NO	NO	NO	NO
USB Port	2	2	2	2	2
ATX control	YES	YES	YES	YES	YES
On Board I/O	Built-in Chipset	W83977ATF	W83977ATF	W83977ATF	W83977ATF
Serial Port	2	2	2	2	2
Parallel Port	1	1	1	1	1
PS/2 K/B	YES	YES	YES	YES	YES
PS/2 Mouse	YES	YES	YES	YES	YES
WDT	YES	YES	YES	YES	YES
IrDA	YES	YES	YES	YES	YES
Dimension	339(L) x 122(W)	339.5(L) x 122(W)	339.5(L) x 122(W)	339.5(L) x 122(W)	339.5(L) x 122(W)
Page	*6*	*7*	*9*	*10*	*11*

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ROBO-698

High-integrated PICMG AIO SBC, Based on the Intel® Pentium® III or Celeron™ Processor



- The most popular Socket 370 SBC, supports Pentium® III processor up to 800MHz
- Support Celeron™ processors up to 600MHz
- On-board AGP VGA with 2MB VRAM inside and 10/100 Base-T Ethernet
- On-board 4 DIMM sockets support up to 1GB of system memory
- Socket 370 type processors are more rugged than traditional Slot 1 Pentium II processors
- PC '98, PICMG 2.0 and PCI V2.1 industrial standard compliant
- One DOC socket for booting Windows NT directly
- Adopt DS1687 RTC to support real Y2K compliance
- System monitoring and protection

Specifications

CPU
- Intel® Socket 370 type Pentium® III processors up to 800MHz
- Intel Celeron™ processors up to 600MHz

BIOS
- AMI system BIOS (256KB flash ROM)

DRAM
- Four 168-pin DIMM sockets support up to 1GB of SDRAM with ECC function

Chipset
- Intel 82440BX AGPset with MMX™ technology and optimized SDRAM
- Dual BGA packages (492 & 324 pins)

On-Board I/O
- On board Winbond W83977ATF super I/O with two USB ports and one IrDA infrared port

Watchdog Timer
- 8 time intervals from 0.5sec. to 64sec. by jumper setting or 255 intervals from 0.5min to 254.5min. by software programming

Power Requirement
- +5V@6A (typical), +12V@140mA, -12V@30mA.

Board Dimension
- 338.5 (L) x 122 (W) mm / 6-layer PCB
- 13.33" (L) x 4.8" (W)

Operating Temperature
- 0 to 55˚C

Connector
- Support Mini DIN, 5-pin header & PS/2 type keyboard connector

Additional Functionality

Optional On-board VGA
- C&T 69000 (2MB SDRAM built in chipset)
- Adopt AGP interface
- Support display mode up to resolution 1280x1024 and refresh rates 60Hz

On-Board 10/100 Base-T Ethernet
- Built with Intel 82559 Ethernet chip to support 10/100 Base-T connecting capability

ISA64 ISA-bus Driving Capability
- Support 64mA high driving capability for ISA-bus slot on backplane

DiskOnChip Flash Disk
- Support M-Systems' flash disk up to 144MB

Fully ATX Power Control
- Modem-Ring-On and Wake-On-LAN

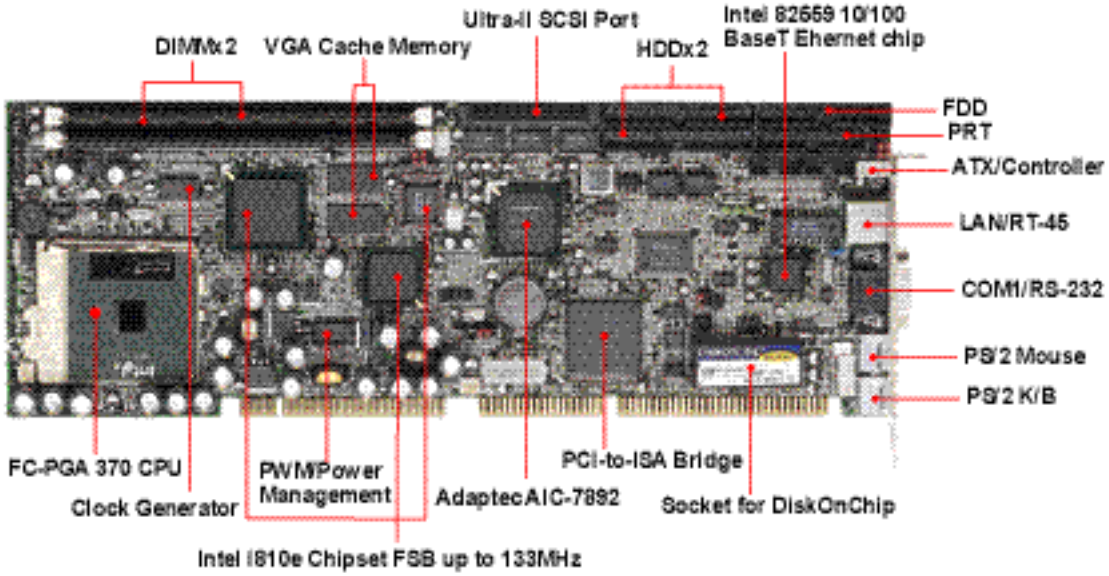
Ordering Guide

ROBO-698
High-integrated PICMG AIO SBC, based on the Pentium III or Celeron processor with AGP VGA display and 10/100 Base-T Ethernet

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ROBO-658

Best Performance PICMG SBC with VGA, Ethernet and SCSI, Based on the Pentium® III Processor



- The most advanced SBC built with AGP display, 10/100 Base-T Ethernet and Ultra III SCSI, based on the Pentium® III (Celeron™) processor
- Support FSB up to 133MHz
- Support up to 512MB of SDRAM
- Support 2D/3D graphic display with 1MB to 5MB VRAM
- DMA 33/66 IDE mode & ISA64 driving capability
- PCI bus spec 2.2 and PICMG 2.0 compliant
- Support ATX function with WOL, Modem-Ring-On, K/B & mouse wake-up

Specifications

CPU
- Intel® Pentium® III processors up to 1GHz

BIOS
- AMI system BIOS (256KB flash ROM)

DRAM
- Two 168-pin DIMM sockets support up to 512MB of SDRAM with ECC function

Chipset
- Intel i810e AGPset
- Dual BGA packages (492 & 324 pins)

On-Board I/O
- Support two EIDE channels up to four HDDs (Ultra DMA 33/66) 2S/1P, two USB ports and one IrDA infrared port

Watchdog Timer
- Software programmable (0.5, 1.5, 2.5,... ... ~254.5 seconds and 0.5, 1.5, 2.5, ... ~254.5 minutes) hardware time-out interval

Power Requirement
- +5V@10A (typical), +12V@80mA, -12V@20mA

Board Dimension
- 338.5 (L) x 122 (W) mm / 8-layer PCB
- 13.33" (L) x 4.8" (W)

Operating Temperature
- 0 to 55˚C

Connector
- Support Mini DIN, 5-pin header & PS/2 type keyboard connector

Additional Functionality

Integrated Graphics Controller
- 2D graphics up to 1600x1200
- Full 2D H/W acceleration, 100MHz SDRAM interface
- Support 4MB SCDRAM with 3D hyper pipelined architecture

On-Board 10/100 Base-T Ethernet
- Built with Intel 82559 Ethernet chip to support 10/100 Base-T connecting capability

On-Board Ultra-160 SCSI
- Adaptec AIC 7892 SCSI controller to support Ultra III SCSI transfer rate up to 160MB/s

DiskOnChip Flash Disk
- Support M-Systems' flash disk up to 144MB

Fully ATX Power Control
- Modem-Ring-On

Ordering Guide

ROBO-658
Best performance PICMG AIO SBC with VGA, Ethernet and SCSI, based on the Pentium III or Celeron processor

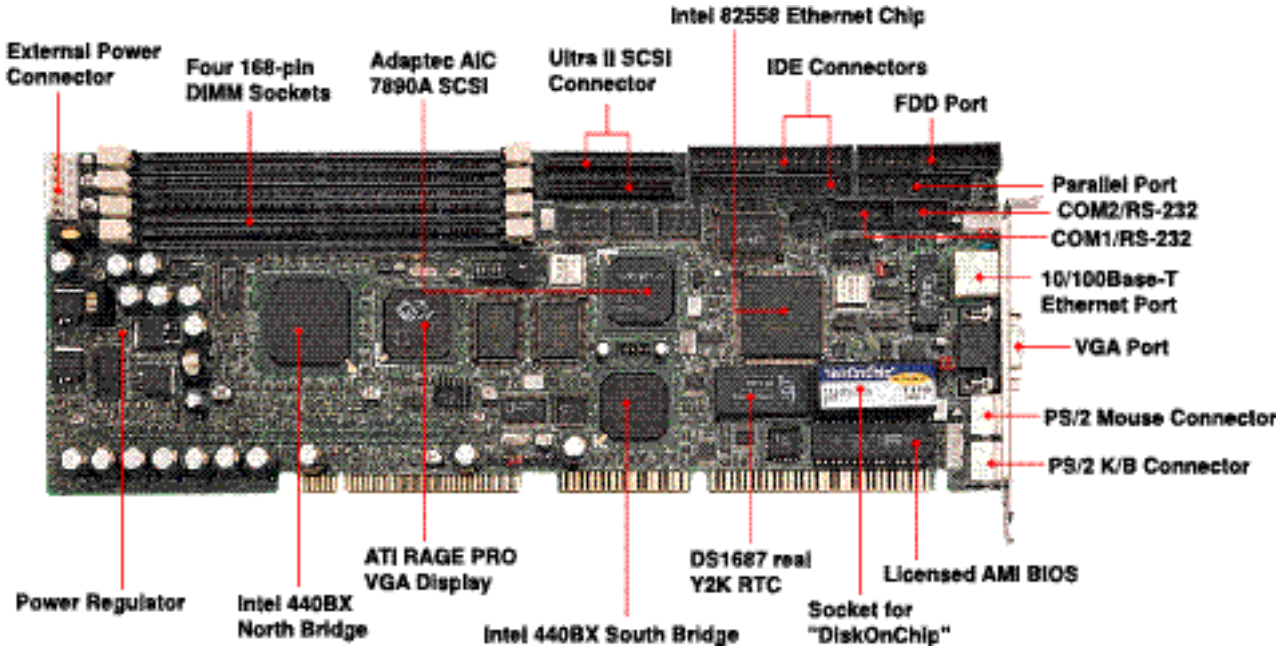
ROBO-658Z
ROBO-658 without SCSI function

ROBO-658W
ROBO-658Z without Ethernet function

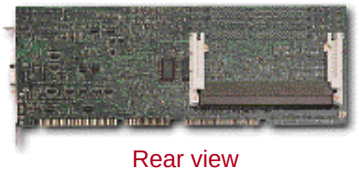
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ROBO-638

Full Function SBC with Ultra 2 SCSI AGP VGA/ Ethernet, Based on the Pentium® III Processor



- The thinnest SBC built with AGP display, 10/100 Base-T Ethernet and Ultra II SCSI, based on the Pentium® III processor
- On-board AGP VGA display with 4MB/8MB VRAM
- On-board Intel® 82558 10/100 Base-T Ethernet
- Fastest disk I/O on board for 80MB/S (Ultra II SCSI)
- Adopt flush mounted Slot 1 CPU architecture to make the board more rugged and reliable
- PC '98, PICMG 2.0 and PCI V2.1 industrial standard compliant
- One DOC socket for booting Windows NT directly
- 256KB/512KB SDRAM built-in L2 cache inside the embedded module with a Pentium III processor
- Adopt DS1687 RTC to support real Y2K compliance
- System monitoring and protection



Rear view

Specifications

CPU
- Intel® Pentium® III processors up to 500MHz

BIOS
- AMI system BIOS (256KB flash ROM)

DRAM
- Four 168-pin DIMM sockets support up to 1GB of SDRAM with ECC function

Chipset
- Intel 82440GX AGPset with MMX™ technology and optimized SDRAM
- Dual BGA packages (492 & 324 pins)

On-Board I/O
- On board Winbond W83977ATF super I/O with two USB ports and one IrDA infrared port

Watchdog Timer
- Eight segmented (0.5, 1, 2, 4, 8, 16, 32, 64 seconds) hardware time-out interval

Power Requirement
- +5V@9A (typical), +12V@100mA, -12V@30mA.

Board Dimension
- 339 (L) x 122 (W) mm / 8-layer PCB
- 13.36" (L) x 4.8" (W)

Operating Temperature
- 0 to 60˚C

Connector
- Support Mini DIN, 5-pin header & PS/2 type keyboard connector

Additional Functionality

On Board AGP VGA Display
- On-board ATI Rage Pro graphics accelerator supports industry leading 3D and top grade 2D display performance/quality

On-Board 10/100 Base-T Ethernet
- Built with Intel 82558 Ethernet chip to support 10/100 Base-T connecting capability

On-Board Ultra II SCSI
- Adaptec AIC 7890A SCSI controller to support Ultra II SCSI transfer rate up to 80MB/s
- 15 devices connectivity
- Drivers supported: DOS, Windows 95, Windows NT, Novell Netware, SCO Unix, OS/2 Warp 3.0, ... etc

DiskOnChip Flash Disk
- Support M-Systems' flash disk up to 144MB

Fully ATX Power Control
- Modem-Ring-On and Wake-On-LAN

Ordering Guide

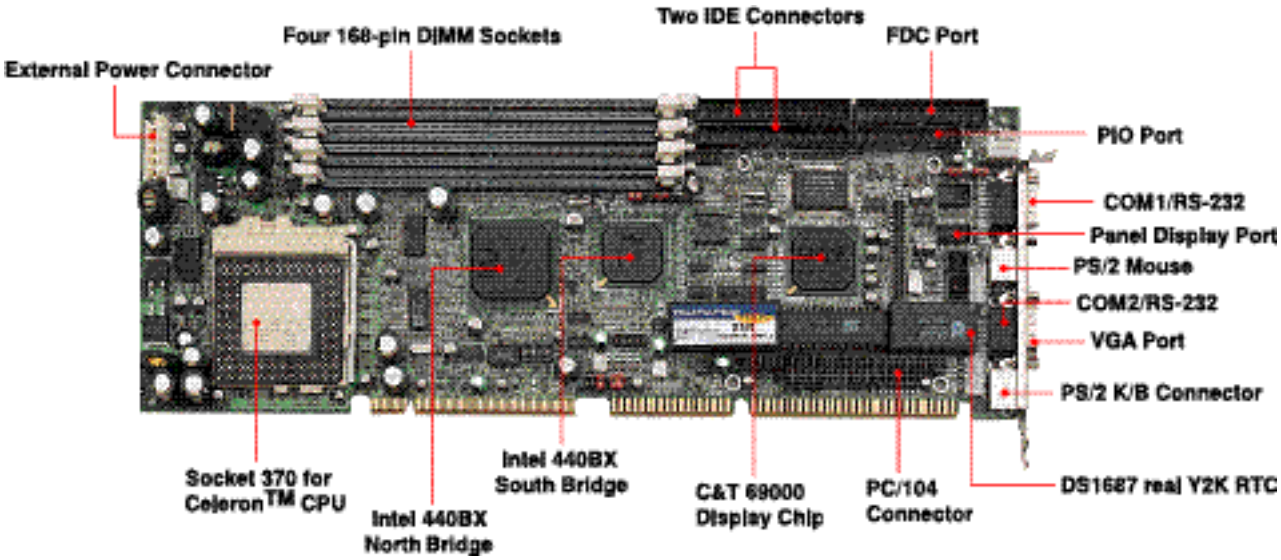
ROBO-638
Full function PCI/ISA AIO SBC, based on the Pentium III processor

ROBO-638Z
ROBO-638 without SCSI function

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ROBO-608

Best Cost/Performance S-370 Type PICMG SBC with PCI VGA/Panel Display



- Socket 370 PPGA for Celeron™ processors up to 466MHz
- Intel® 440BX AGPset, 66/100 MHz FSB
- Support up to 1GB (max.) of registered SDRAM with ECC function
- Support one DiskOnChip socket up to 144MB
- PC/104 connector and ISA-bus high driving capability
- Support PCI VGA display with 2MB memory and panel solution (optional)
- Support system overheat protection, real hardware Y2K compliant RTC and ATX power control

Specifications

CPU
- Intel® Celeron™ processor up to 466MHz

BIOS
- AMI system BIOS (256KB Flash ROM)

DRAM
- Four 168-pin DIMM sockets support up to 1GB of SDRAM with ECC function

Chipset
- Intel 82440GX AGPset with MMX™ technology and optimized SDRAM
- Dual BGA packages (492 & 324 pins)

On-Board I/O
- On board Winbond W83977ATF super I/O with two USB ports and one IrDA infrared port

Watchdog Timer
- Eight segmented (0.5, 1, 2, 4, 8, 16, 32, 64 seconds) hardware time-out interval

Power Requirement
- +5V@6A (typical), +12V@140mA, -12V@30mA

Board Dimension
- 338.5 (L) x 122 (W) mm / 6-layer PCB
- 13.33" (L) x 4.8" (W)

Operating Temperature
- 0 to 60˚C

Connector
- Support Mini DIN, 5-pin header & PS/2 type keyboard connector
- Support external power connector
- Support optional panel display port

Additional Functionality

On-Board PCI VGA Display
- C&T 69000 high performance flat panel/ CRT HiQVideo accelerator with 2MB integrated memory
- Support TFT/DSTN flat panel or CRT display simultaneously

DiskOnChip Flash Disk
- Support M-Systems' flash disk up to 144MB

Fully ATX Power Control
- Modem-Ring-On and Wake-On-LAN

System Monitoring / Protection
- Auto speeds down when CPU overheats (OS independent & driverless)

Ordering Guide

ROBO-608
Advanced Socket 370 PICMG SBC with PCI VGA / panel display

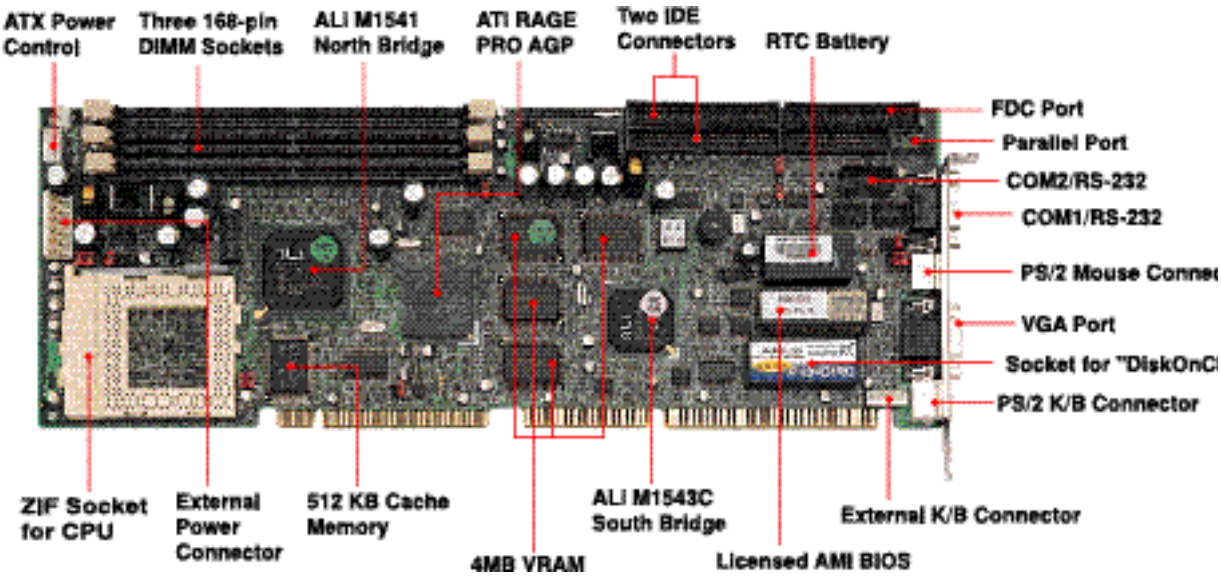
LCD-KIT-RS
Optional kit for TFT SVGA LCD panel

LCD-KIT-RX
Optional kit for XGA LCD panel

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ROBO-598

Advanced AIO SBC with AGP Display & Flash Disk, Based on the Pentium® Processor 450MHz



- Pentium® based SBC supports AMD K6 CPU up to 450MHz
- Equipped with 512KB pipeline burst SRAM
- Three DIMM (8MB to 256MB) type sockets support up to 768MB (max.) of DRAM
- Built-in with ATI Rage Pro AGP display chip and 4/8MB VRAM for high grade display
- ISA-bus high driving capability
- Built-in RTC and configurable WDT (Watchdog Timer)
- Support one DiskOnChip socket up to 144MB
- 1.8V~3.5V power regulator range
- USB ports support

Specifications

CPU
- Intel® P55C processors up to 266MHz
- AMD K6 processors up to 450MHz
- Cyrix M1/M2 processors up to 450MHz

DRAM
- Three DIMM type sockets support up to 768MB

Cache Memory
- 512KB pipeline burst SRAM, cacheable up to 256MB

BIOS
- AMI PCI/ISA Pentium BIOS

Chipset
- ALi M1541/1543C chipset

On-Board I/O
- On-board 2xIDE/FDC/2S/1P, K/B and mouse with two USB ports and one IrDA infrared port

Watchdog Timer
- 0.5, 1, 2, 4, 8, 16, 32, 64 seconds time-out interval

Power Requirement
- +5V@10A (typical), +12V@80mA, -12V@30mA

Operating Temperature
- 0 to 60˚C

Board Dimension
- 339 (L) x 122 (W) mm / 6-layer PCB
- 13.36" (L) x 4.8" (W)

Storage Temperature
- -40 to 75˚C

Relative Humidity
- 5 to 95% non-condensing

Additional Functionality

AGP Display
- Adopt ATI Rage PRO AGP display chipset with on-board 4/8MB VRAM

DiskOnChip Flash Disk
- Support M-Systems' flash disk up to 144MB

ISA-Bus Driving Capability
- Enhanced ISA-Bus driving capability for driving more ISA boards

Fully ATX Power Control
- Modem-Ring-On and Wake-On-LAN

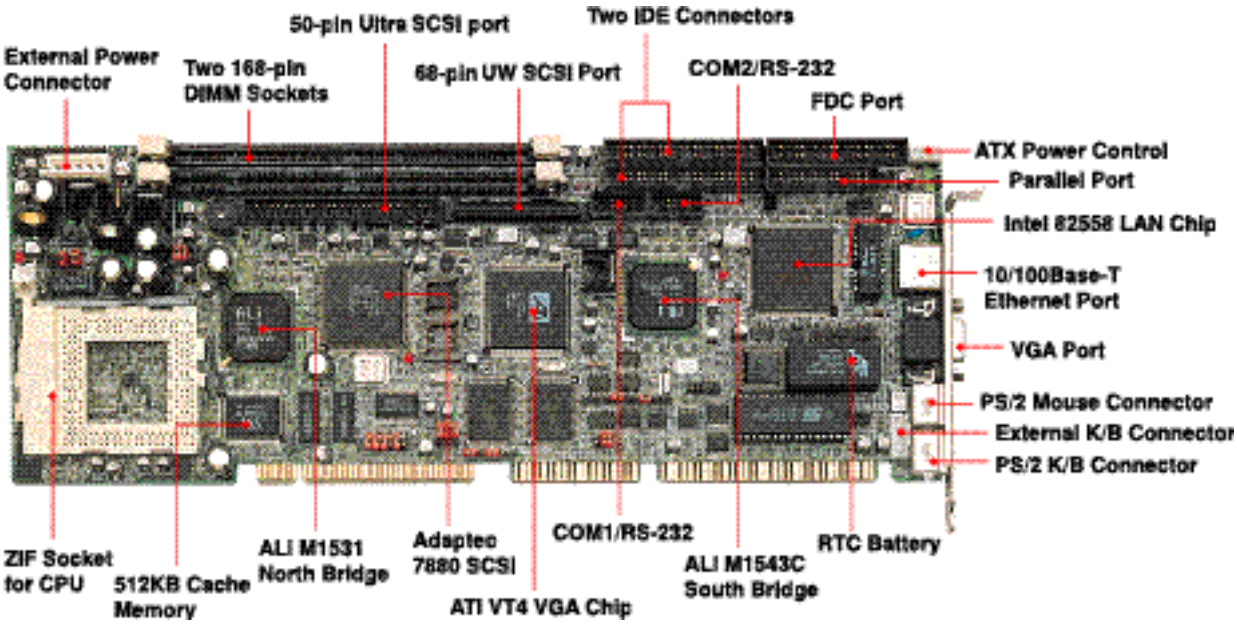
Ordering Guide

ROBO-598
Advanced AIO SBC with AGP display and flash disk, based on the Pentium processor 450MHz

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ROBO-578

Highly Integrated SBC with VGA/Ethernet/ UW SCSI, Based on the Pentium® Processor



- Pentium® processor based SBC supports Intel® P55C up to 233MHz, Cyrix M1/M2 and AMD K6 CPU up to 333MHz
- On-board ATI VT4 PCI VGA display with 2MB VRAM
- On-board Intel 82558 10/100 Base-T Ethernet
- On-board Adaptec 7880 Ultra-Wide SCSI 40MB/S
- Equipped with 512KB pipeline burst SRAM
- Two DIMM type sockets support up to 256MB of DRAM
- ISA bus high driving capability
- Built-in RTC and configurable WDT (Watchdog Timer)
- 1.8V~3.5V power regulator range
- USB ports support

Specifications

CPU
- Intel® P55C processors up to 233MHz
- AMD K6 processors up to 400MHz
- Cyrix M1/M2 processors up to 400MHz

DRAM
- Two DIMM type sockets support up to 256MB of DRAM
- ECC and parity functions support

Cache Memory
- 512KB pipeline burst SRAM, cacheable up to 256MB

BIOS
- AMI PCI/ISA Pentium BIOS

Chipset
- ALi M1531/1543C chipset

On-Board I/O
- 2xIDE/FDC/2S/1P, K/B and mouse on board with two USB ports and one IrDA infrared port

Watchdog Timer
- 0.5, 1, 2, 4, 8, 16, 32, 64 seconds time-out interval

Power Requirement
- +5V@6A, +12V@70mA

Board Dimension
- 339 (L) x 122 (W) mm / 6-layer PCB
- 13.36" (L) x 4.8" (W)

Operating Temperature
- 0 to 60˚C

Storage Temperature
- -40 to 75˚C

Relative Humidity
- 5 to 95% non-condensing

Additional Functionality

On-Board Ultra-Wide SCSI
- Adaptec AIC 7880 SCSI controller
- Ultra-Wide SCSI transfer rate:
  - 8-bit (narrow): 20MB/
  - 16-bit (wide): 40MB/s
- 15 devices connectivity
- Drivers supported: DOS, Windows 95, Windows NT, Novell Netware, SCO Unix, OS/2 Warp 3.0, ... etc

PCI Bus VGA Display
- On-board 2D ATI VT4 VGA display chipset with 2/4MB VRAM

On-Board 10/100 Base-T Ethernet
- Built with Intel 82558 Ethernet chip to support 10/100 Base-T connecting capability

Fully ATX Power Control
- Modem-Ring-On and Wake-On-LAN

Ordering Guide

ROBO-578
Highly integrated SBC with VGA/Ethernet/ UW SCSI, based on the Pentium processor

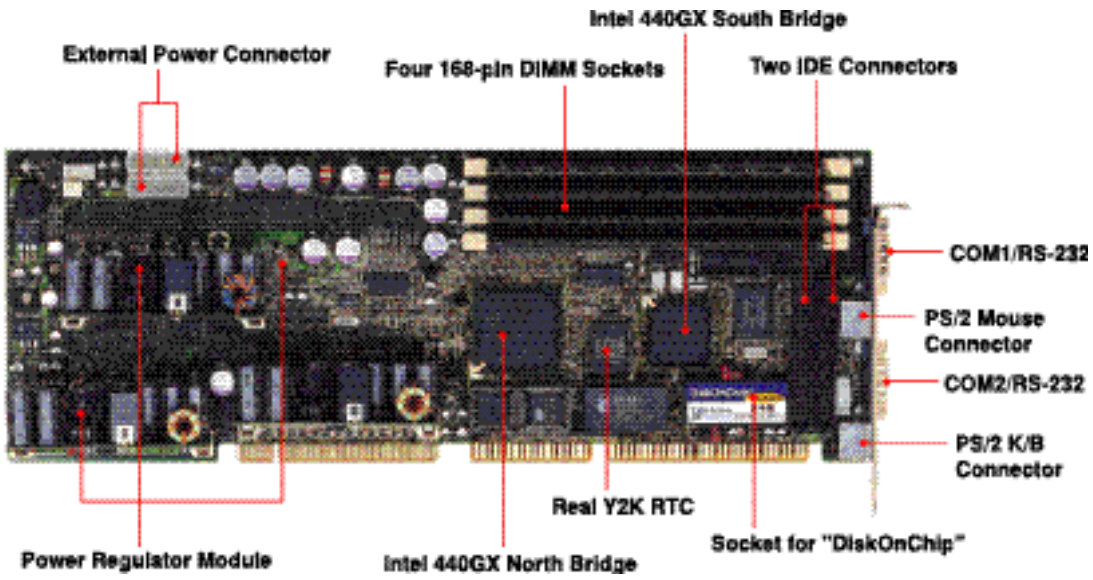
ROBO-578Z
ROBO-578 without SCSI function

ROBO-578W
ROBO-578Z without Ethernet function

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ACTI-888

World's First PICMG Dual-processor AIO SBC, Based on the Pentium® III Xeon™ Processor



- Support 100MHz FSB Slot 2 Pentium® III Xeon™ up to 500MHz
- Adopt specially designed CPU braces to make the board more rugged
- PC '98, PCI V2.1 & PICMG 2.0 industrial standard compliant
- One DOC socket for booting Windows NT directly
- 512KB SDRAM built-in L2 cache inside the embedded module with a Pentium III processor
- Adopt DS1687 RTC to support real Y2K compliance
- ECC (Error Checking & Correction) & DIMM SPD (Serial Presence Detect)
- Support three VRM 8.3 to have the best stability
- Target multi-processor O/S:
  - Windows NT advanced Server
  - Novell Netware
  - OS/2 Warp server
  - SCO Open server

Specifications

CPU
- Dual set-up for Intel® Pentium® III Xeon™ processors up to 500MHz

BIOS
- AMI system BIOS (256KB flash ROM)

DRAM
- Four 168-pin DIMM sockets support up to 2GB of 3.3V PC-100 SDRAM with ECC function

Chipset
- Intel 82440GX AGPset with MMX™ technology
- Dual BGA packages (492 & 324 pins)

On-Board I/O
- On-board Winbond W83977ATF super I/O with two USB ports

Auxiliary I/O
- One 2-pin system reset switch
- One 4-pin external speaker interface
- One 5-pin key lock header
- One 2-pin HDD active indicator interface
- One 4-pin ATX power control interface

Watchdog Timer
- 1, 2, 4, 8, 16, 32, 64 seconds time-out interval

Power Requirement
- +5V@4A (typical),+12V@3.2A (typical) -12V@30mA

Board Dimension
- 339.5 (L) x 122 (W) mm / 8-layer PCB
- 13.37" (L) x 4.8" (W)
- Space needed: **13.36" (L) x 5.2" (W)**

Operating Temperature
- 0 to 55˚C

Connector
- Support Mini DIN, 5-pin header & PS/2 type keyboard connector
- Support external power connector

Additional Functionality

DiskOnChip Flash Disk
- Support M-Systems' flash disk up to 144MB

System Monitoring / Protection
- Auto speeds down when system overheats
- ADM 9240 on board to have thermal sensor, two FAN speed monitoring connectors and 7 voltage input
- Wake-On-LAN & Modem-Ring-On

Ordering Guide

ACTI-888
Advanced PCI/ISA dual-processor AIO SBC, based on the Pentium III Xeon processor

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Pentium® III Xeon™ Processor

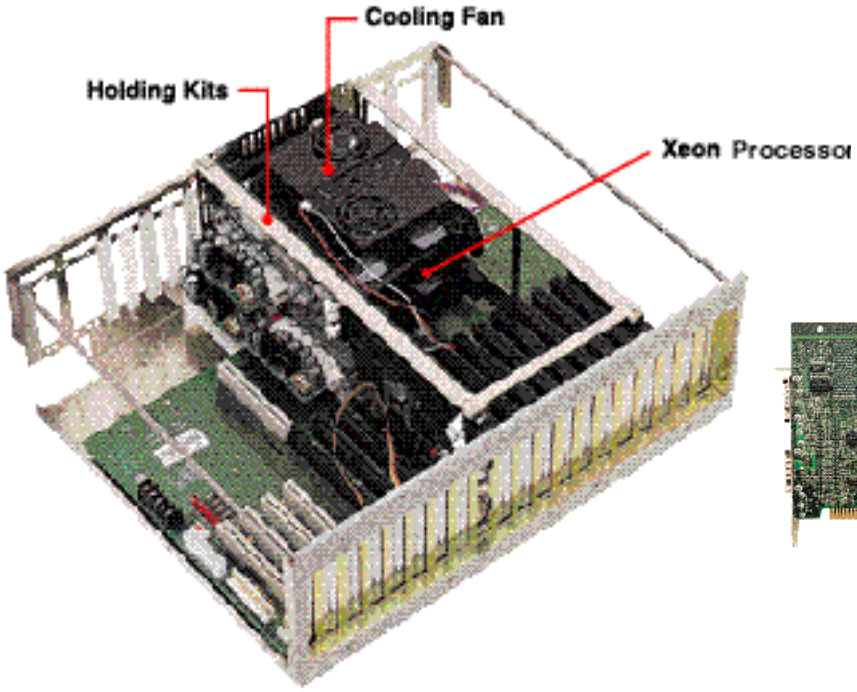
the processor of choice for mid-range and higher servers and workstations

The Pentium III Xeon processor is available with large, fast caches to keep data flying at super high speed through the processor core. In addition, superior manageability features such as Thermal Protection, Error Checking and Correcting, Functional Redundancy Checking and the System Management Bus help ensure maximum reliability and uptime.

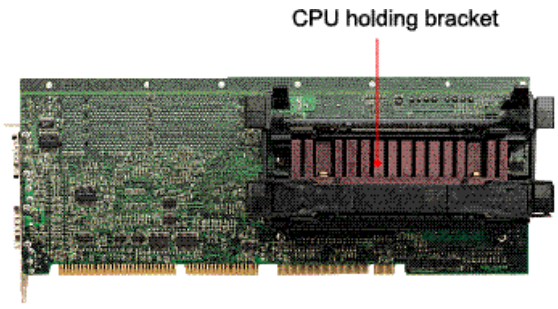
The Pentium III Xeon processor is ideal for any mid-range or higher Intel-based server or workstation application where power counts:

- No-compromise speed and performance for graphics, engineering, NCAD, financial and imaging workstation applications.
- Enterprise-level performance plus reliability and manageability features for mission-critical server applications.

Intel Pentium III Xeon processors are available at speeds of 400MHz and 500MHz to provide the best Intel performance available for applications running on advanced operating systems such as Windows NT for Workstations, Windows NT for Servers, NetWare and UNIX.



3D view



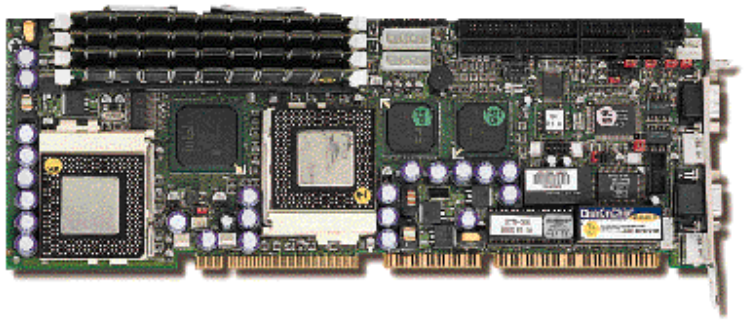
Rear view

The way to fix the Xeon processor is quite important to ACTI-888. We have a very special mechanical design (Patent Pending) which uses a kit to balance the CPU and the special cooling device to expire the heat from the board.

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ACTI-788

Advanced PICMG SBC with On-board AGP VGA, Based on the Dual Socket 370 Processor



Features

- Support dual Socket 370 processors with bus clock up to 100MHz
- Support up to 1GB (max.) of SDRAM with ECC function
- Support AGP VGA display up to 2MB VRAM
- Full-sized all-in-one SBC with PICMG 2.0 compliance
- PCI Bus spec. V2.1 compliant
- PC '98 & Year 2000 compliant
- ISA64 driving capability
- Support ATX function with K/B & mouse wake-up, WOL and Modem-Ring-On

Specifications

Chipset
- Intel® 440BX AGPset

CPU
- Support Intel® dual Socket 370 processors up to 500MHz
- CPU bus clock: 66/100 MHz
- CPU core/bus clock ratio: X2 to X8
- Intelligent CPU switching power module
- Standard PPGA socket 370 (370-pin)

Main Memory
- Four 168-pin DIMM sockets
- Support up to 1GB (max.) of 3.3V SDRAM
- ECC function

System BIOS
- AMI BIOS with PC '98 support
- 256KB flash ROM for easy upgrade
- DMI, PnP, Green function and ACPI

On Board I/O
- Two enhanced IDE ports support up to four HDDs with PIO mode 4, Ultra DMA/33 and Bus Master features
- One FDD port supports up to two floppy disk drives
- Two standard high speed serial ports
- One infrared port
- One SPP, EPP/ECP bi-directional parallel port
- Two USB ports

Auxiliary I/O
- One 2-pin system reset switch
- One 4-pin external speaker interface
- One 5-pin key lock header
- One 2-pin HDD active indicator interface
- One 4-pin ATX power control interface

Keyboard and PS/2 Mouse Interfaces
- Support two independent mini-DIN 6-pin connectors for keyboard and mouse and one 5-pin header for external keyboard

DiskOnChip (DOC)Solid State Disk
- Support M-Systems' flash disk up to 144MB (one 32-pin DIP single chip)

Real-time Clock/Calendar (RTC)
- DS1687 or compatible ensures 10 years of data retention with Y2K compliance

Watchdog Timer
- 8 time intervals from 0.5sec. to 64sec. by jumper setting or 255 intervals from 0.5min. to 254.5min. by software programming

External Power Connector (dual 4-pin)
- Support two standard 5.25" disk drive power connector to enhance power driving capability for running a multi-application system

Power Good
- On-board power good generator with 200ms to 300ms reset duration

CPU Cooling Fan Connector
- Support two 3-pin headers with wafer for CPU & system power voltage

Physical & Environmental Requirements
- **Dimension (LxW):** 339.5mm (13.37") x 122mm (4.8")
- **PCB layout:** 8-layer (Double-sided component)
- **Power Requirements:** +5V@10A (typ.), +12V@80mA, -12V@20mA
- **Operating Temperature:** 0 to 55°C
- **Relative Humidity:** 5% to 95%, non-condensing

Additional Functionality

System Hardware Monitoring (LM79)
- Monitor CPU & chassis fan status, system temperature and power voltage

Wake-On-LAN & Modem-Ring-On
- Support ATX function with 4-pin header to connect to backplane
- 3-pin header to support LAN card

ISA64 ISA-bus Driving Capability
- Support 64mA high driving capability for ISA-bus slot on backplane

Optional On-board VGA
- C&T 69000 (2MB SDRAM built in chipset)
- Adopt AGP interface
- Support display mode up to resolution 1280x1024 and refresh rates 60Hz

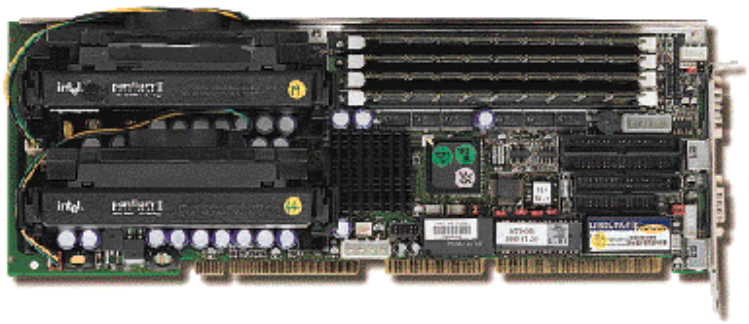
Ordering Guide

ACTI-788
Advanced PICMG SBC with on-board AGP VGA, based on the dual socket 370 processor

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ACTI-688

Advanced PICMG Dual-processor SBC with ISA64, Based on the Intel® Pentium® III Processor



Features

- Support dual Slot 1 type processors with bus clock up to 100MHz
- Support up to 1GB (max.) of SDRAM with ECC function
- Full-sized all-in-one SBC with PICMG 2.0 compliance
- PCI Bus spec. V2.1 compliant
- PC '98 & Year 2000 compliant
- ISA64 driving capability
- Support DOC, DOM (Disk-On-Module) and ATX function
- Adopt specially designed braces to prevent the board from bending or inclining

Specifications

Chipset
- Intel® 440BX AGPset

CPU
- Support dual set-up for Intel® Pentium® III processors up to 600MHz
- CPU bus clock: 66/100MHz
- CPU core/bus clock ratio: X2 to X8
- Intelligent CPU switching power module (VRM 8.4)
- Straight type Slot 1 socket (standard 242-pin)

L2 Cache Memory
- 256/512KB PBSRAM built-in the module with a Pentium III processor

Main Memory
- Four 168-pin DIMM sockets
- Support up to 1GB (max.) of 3.3V SDRAM
- ECC function

System BIOS
- AMI BIOS with PC'98 support
- 128KB Flash ROM for easy upgrade
- Support APM, DMI, PnP and ACPI

On Board I/O (Winbond W83977ATF)
- Two enhanced IDE ports support up to four HDDs with PIO mode 4, Ultra DMA/33 and Bus Master features
- One FDD port supports up to two floppy disk drives
- Two standard high speed serial ports
- One infrared port
- One SPP, EPP/ECP bi-directional parallel port
- Two USB ports

Auxiliary I/O
- One 2-pin system reset switch
- One 4-pin external speaker interface
- One 5-pin key lock header
- One 2-pin HDD active indicator interface
- One 4-pin ATX power control interface

Keyboard and PS/2 Mouse Interfaces
- Support two independent mini-DIN 6-pin connectors for keyboard and mouse and one 5-pin header for external keyboard

DiskOnChip (DOC)Solid State Disk
- Support M-Systems' flash disk up to 144MB (one 32-pin DIP single chip)

Real-time Clock/Calendar (RTC)
- DS1687 or compatible ensures 10 years of data retention with Y2K compliance

Watchdog Timer
- 8 time intervals from 0.5sec. to 64sec. by jumper setting or 255 intervals from 0.5min. to 254.5min. by software programming

External Power Connector (dual 4-pin)
- Support two standard 5.25" disk drive power connector to enhance power driving capability for running a multi-application system

Physical & Environmental Requirements
- **Dimension (LxW):**
  339.5mm (13.37") x 122mm (4.8")
- **PCB layout:**
  8-layer (Double-sided component)
- **Power Requirements:**
  +5V@15A (typ.),+12V@100mA, -12V@20mA
- **Operating Temperature:**
  0 to 55°C
- **Relative Humidity:**
  5% to 95%, non-condensing

Additional Functionality

ISA64 ISA-bus Driving Capability
- Support 64mA high driving capability for ISA-bus slot on backplane

System Hardware Monitoring (LM79)
- Monitor CPU & chassis fan status, system temperature and power voltage

Wake-On-LAN & Modem-Ring-On
- Support ATX function with 4-pin header to connect to backplane
- Standby 3-pin header to support LAN card

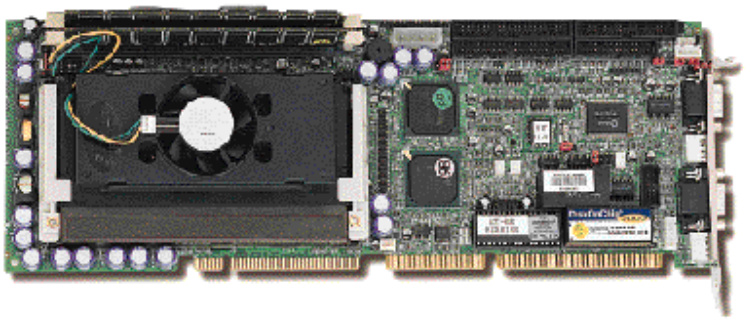
Ordering Guide

ACTI-688
Advanced PICMG Dual-processor SBC with ISA64, based on the Intel® Pentium® III processor

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ACTI-648

Advanced PICMG SBC with On-board AGP VGA, Based on the Pentium® III processor



Features

- Support Slot 1 type processors with bus clock up to 100MHz
- Support up to 512MB (max.) of SDRAM with ECC function
- Support AGP VGA/Panel display up to 4MB VRAM
- Full-sized all-in-one SBC with PICMG 2.0 compliance
- PCI Bus spec. V2.1 compliant
- PC '98 & Year 2000 compliant
- ISA64 driving capability
- All electrolytic capacitors adopt 105°C for safety consideration

Specifications

Chipset
- Intel® 440BX AGPset

CPU
- Support Intel® Pentium® III processors up to 600MHz
- CPU bus clock: 66/100 MHz
- CPU core/bus clock ratio: X2 to X8
- Intelligent CPU switching power module (VRM 8.4)
- Flush-mounted Slot 1 socket (242-pin)

L2 Cache Memory
- 256/512KB PBSRAM built-in the module with a Pentium III processor

Main Memory
- Two 168-pin DIMM sockets
- Support up to 512MB (max.) of 3.3V SDRAM
- ECC function

System BIOS
- AMI BIOS with PC'98 support
- 256KB flash ROM for easy upgrade
- Support ACPI, DMI, PnP and Green function

On Board I/O
- Two enhanced IDE ports support up to four HDDs with PIO mode 4, Ultra DMA/33 and Bus Master features
- One FDD port supports up to two floppy disk drives
- Two standard high speed serial ports
- One infrared port
- One SPP, EPP/ECP bi-directional parallel port
- Two USB ports

Keyboard and PS/2 Mouse Interfaces
- Support two independent mini-DIN 6-pin connectors for keyboard and mouse and one 5-pin header for external keyboard

Auxiliary I/O
- One 2-pin system reset switch
- One 4-pin external speaker interface
- One 5-pin key lock header
- One 2-pin HDD active indicator interface
- One 4-pin ATX power control interface

DiskOnChip (DOC)Solid State Disk
- Support M-Systems' flash disk up to 144MB (one 32-pin DIP single chip)

Real-time Clock/Calendar (RTC)
- DS1687 or compatible ensures 10 years of data retention with Y2K compliance

Watchdog Timer
- 8 time intervals from 0.5sec. to 64sec. by jumper setting or 255 intervals from 0.5min. to 254.5min. by software programming

External Power Connector (standard 4-pin)
- Support one standard 5.25" disk drive power connector to enhance power driving capability and improve on-board power quality

Power Good
- On-board power good generator with 200ms to 300ms reset duration

CPU Cooling Fan Connector
- Support two 3-pin headers with wafer for CPU and chassis cooling fan interface

Physical & Environmental Requirements
- **Dimension (LxW):**
  339.5mm (13.37") x 122mm (4.8")
- **PCB layout:**
  8-layer (Single-sided component)
- **Power Requirements:**
  +5V@10A (typ.), +12V@80mA, -12V@20mA
- **Operating Temperature:**
  0 to 55°C
- **Relative Humidity:**
  5% to 95%, non-condensing

Additional Functionality

ISA64 ISA-bus Driving Capability
- Support 64mA high driving capability for ISA-bus slot on backplane

On-board PCI VGA Display
- C&T 69000 (2MB SDRAM built-in chipset)
- Adopt AGP interface
- One DSUB-15 connector for CRT display interface
- One 40-pin (2mm) SMD pin header for flat panel interface
- Support TFT/DSTN flat panel or CRT display simultaneously
- Support display resolution up to 1280 x1024 and refresh rates 60Hz

System Hardware Monitoring (LM79)
- Monitor CPU & chassis fan status, system temperature and power voltage

Wake-On-LAN & Modem-Ring-On
- Standby 3-pin header to support LAN card
- Support system wake up function from modem

Ordering Guide

ACTI-648
Advanced PICMG SBC with on-board AGP VGA, based on the Pentium® III processor (Produced by customers' request)

ACTI-648L
ACTI-648 with normal capacitor for cost saving

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PICMG Backplane

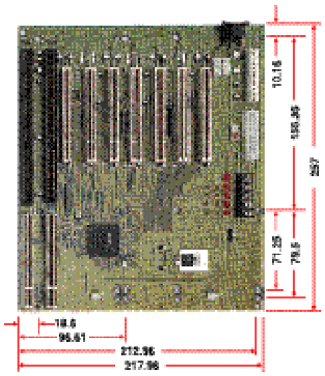
6/8/14/19 Slot PCI/ISA Bus PICMG Backplane Series

What's Active Backplane?

To support more PCI slots (such as 7, 12 and 18 slots), we adopt the most popular PCI bridge chipset from Intel to extend our PCI slots. Traditional backplanes only allow passive components to be put on the backplanes. To meet this demand, we put the active chipset on the backplanes. Therefore, it will be no longer called passive backplanes but should be named as "active backplanes".

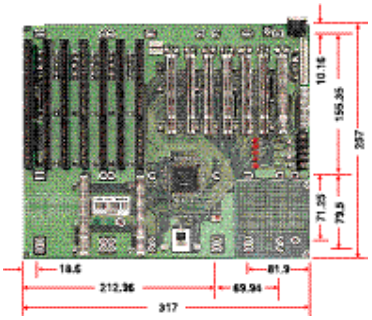
PBP-08A7

8-Slot (7xPCI) Active PICMG Backplane



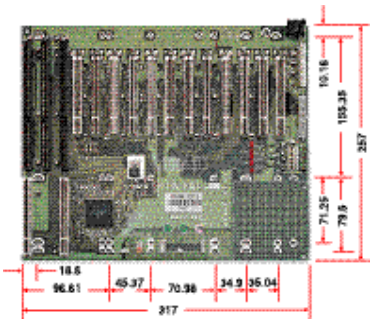
PBP-14A7

14-Slot (7xPCI) Active PICMG Backplane



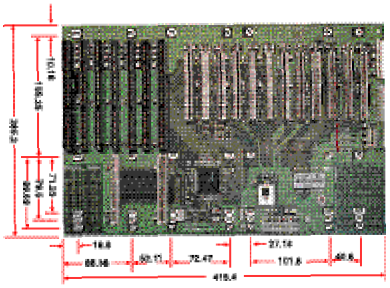
PBP-14AC

14-Slot (12xPCI) Active PICMG Backplane



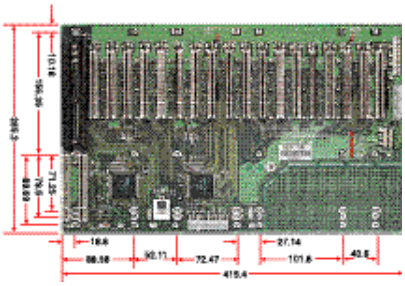
PBP-19AC

19-Slot (12xPCI) Active PICMG Backplane



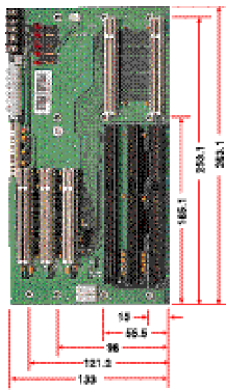
PBP-19AI

19-Slot (18xPCI) Active PICMG Backplane



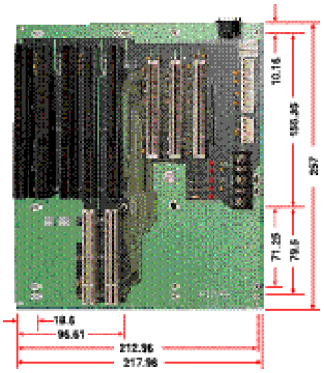
PBP-06P3

6-Slot (3xPCI) PICMG Backplane



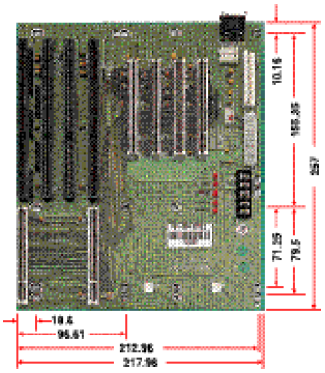
PBP-08P3

8-Slot (3xPCI) PICMG Backplane



PBP-08P4

8 Slot (4xPCI) PICMG Backplane



PS. All our 20-slot backplanes are built with dual power-in connectors.

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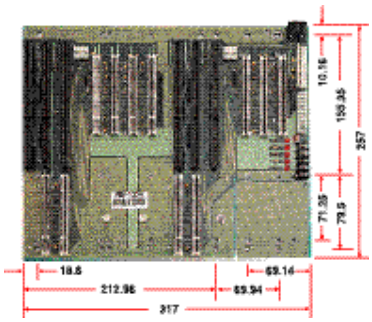
PICMG Backplane

2/6/13/14/18/19/20 Slot PCI/ISA Bus PICMG Backplane Series

- 4-layer PCB with ground and power planes to reduce noise and keep lower impedance
- Frame rated PCB at 94-V0
- Support ATX type and 3.3V power connector
- LED indicator for power signal status
- Reserve terminal block connector for wiring
- Equipped with gold-plated connector for better contact
- Adopt Tantalum capacitors to keep circuit signal more reliable and stable
- No PCB bent after soldering

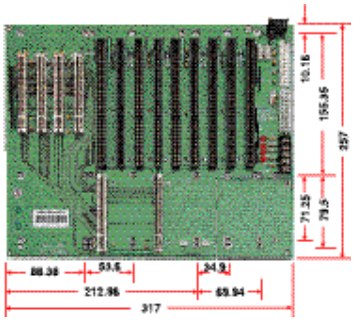
PBP-13D4

13-Slot Dual-System Backplane



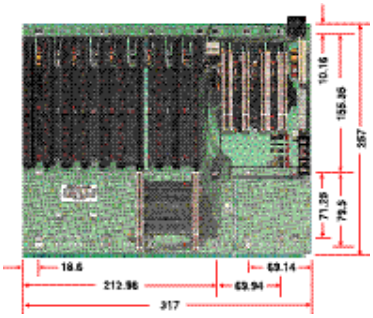
PBP-13R4

13-Slot (4xPCI) PICMG Backplane



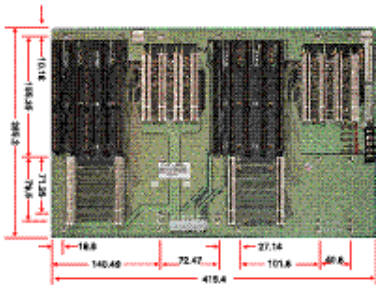
PBP-14P4

14-Slot (4xPCI) PICMG Backplane



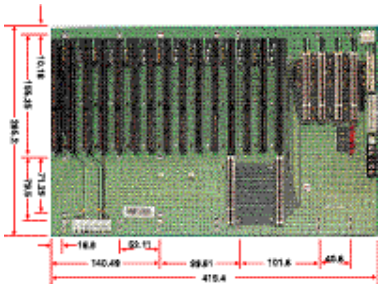
PBP-18D4

18-Slot Dual-System Backplane



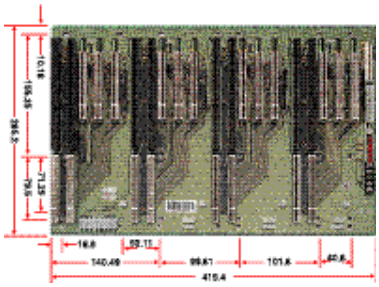
PBP-19P4

19-Slot (4xPCI) PICMG Backplane



PBP-20Q3

20-Slot Quad-System Backplane



PBP-06V4

Horizontal 6-Slot (4xPCI) PICMG Backplane



▲ Front View ▼ Rear View



PBP-02V1

Horizontal 2-Slot (1xPCI) PICMG Backplane



▲ Front View ▼ Rear View



PS. All our 20-slot backplanes are built with dual power-in connectors.

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ISA Backplane

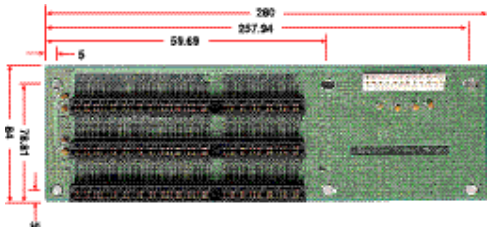
3/6/8/14/20 Slot ISA Bus Passive Backplane Series

- 4-layer PCB with ground and power planes for reducing noise and keeping lower impedance
- Frame Rated PCB at 94-V0
- LED power indicator for +5V,+12V,-5V and -12V
- Heavy duty terminal block connector for industrial power supply wiring.(*)
- Equipped with gold-plated socket for good contact
- Tantalum capacitor on board to keep reliable and stable quality
- Easy cut for dual or multi system.(*)
- Plug-in sockets of termination resistors for high speed signal.(*)

"*" means for most part of products

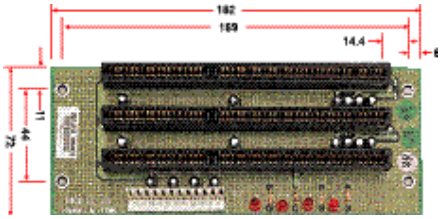
PBP-06V

Horizontal 6-Slot ISA Passive Backplane



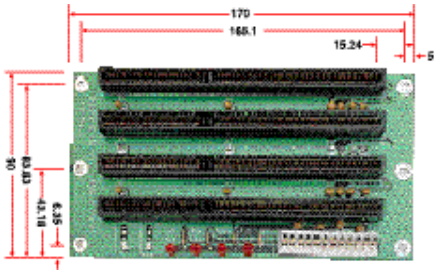
PBP-03I

3-Slot ISA Passive Backplane



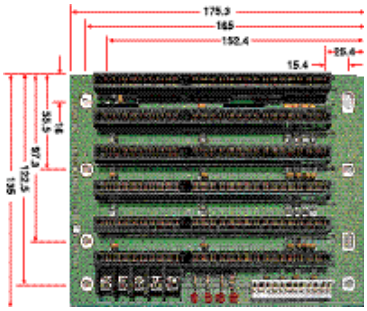
PBP-04I

4-Slot ISA Passive Backplane



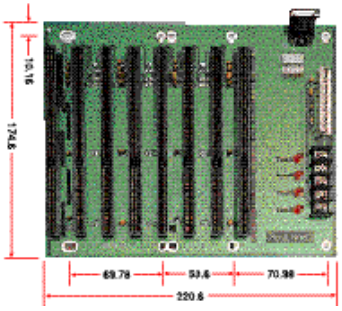
PBP-06I

6-Slot ISA Passive Backplane



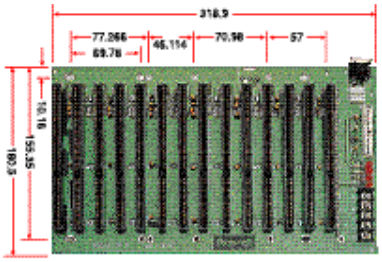
PBP-08I

8-Slot ISA Passive Backplane



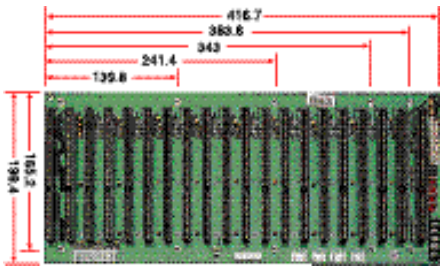
PBP-14I

14-Slot ISA Passive Backplane



PBP-20I

20-Slot ISA Passive Backplane



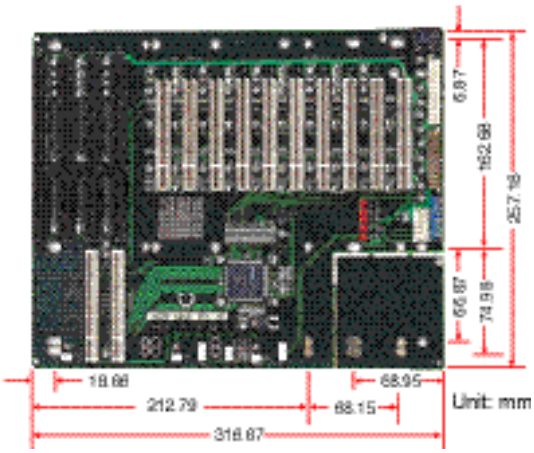
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ACTI Backplane

14/18/19 Slot PCI/ISA Bus ACTI Backplane Series

ACTI-14AA

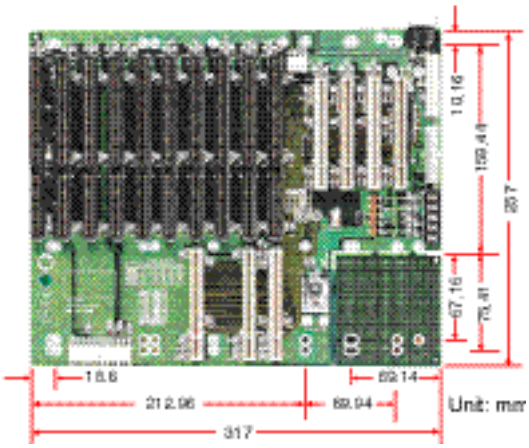
14 -Slot (10xPCI) PICMG Backplane



- 3rd generation design of ACTI-backplane
- Enhanced PCB thickness to prevent bending
- As many as 10 PCI slots to meet the demand of today's CTI applications
- More PICMG CPU slots to fit versatile SBC boards
- Specially designed capacitor which lowers the ESR and prevents explosion
- Well-designed power ensures sufficient power is delivered to every slot

ACTI-14P4

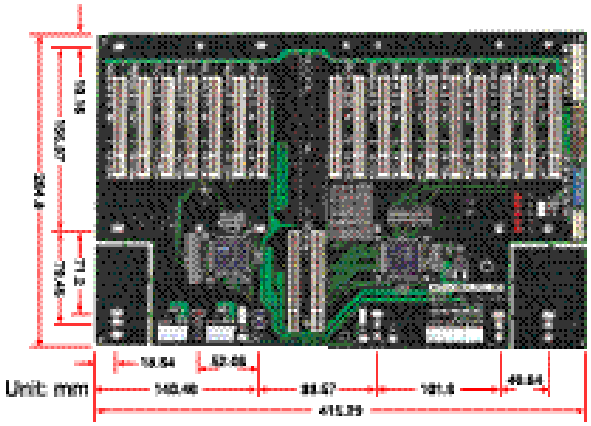
14-Slot (4xPCI) PICMG Backplane



- 3rd generation design of ACTI-backplane
- Enhanced PCB thickness to prevent bending
- As many as 9 ISA slots capable of handling multiple bus applications
- More PICMG CPU slots to fit versatile SBC boards
- Specially designed capacitor which lowers the ESR and prevents explosion
- Well-designed power ensures sufficient power is delivered to every slot

ACTI-18AH

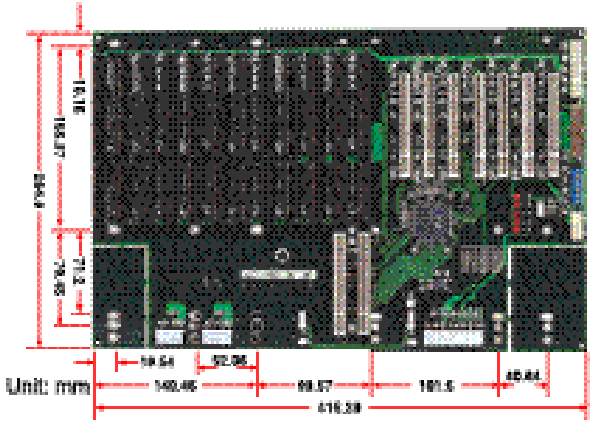
18-Slot (17xPCI) PICMG Backplane



- 3rd generation design of ACTI-backplane
- Enhanced PCB thickness to prevent bending
- Support 17 PCI slots for new CTI application
- More PICMG CPU slots to fit versatile SBC boards
- Specially designed capacitor which lowers the ESR and prevents explosion
- Well-designed power ensures sufficient power is delivered to every slot

ACTI-19A7

19-Slot (7xPCI) PICMG Backplane



- 3rd generation design of ACTI-backplane
- Enhanced PCB thickness to prevent bending
- Support 11 ISA slots for the legend bus application
- More PICMG CPU slots to fit versatile SBC boards
- Specially designed capacitor which lowers the ESR and prevents explosion
- Well-designed power ensures sufficient power is delivered to every slot

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* Specifications are subject to change without notice.

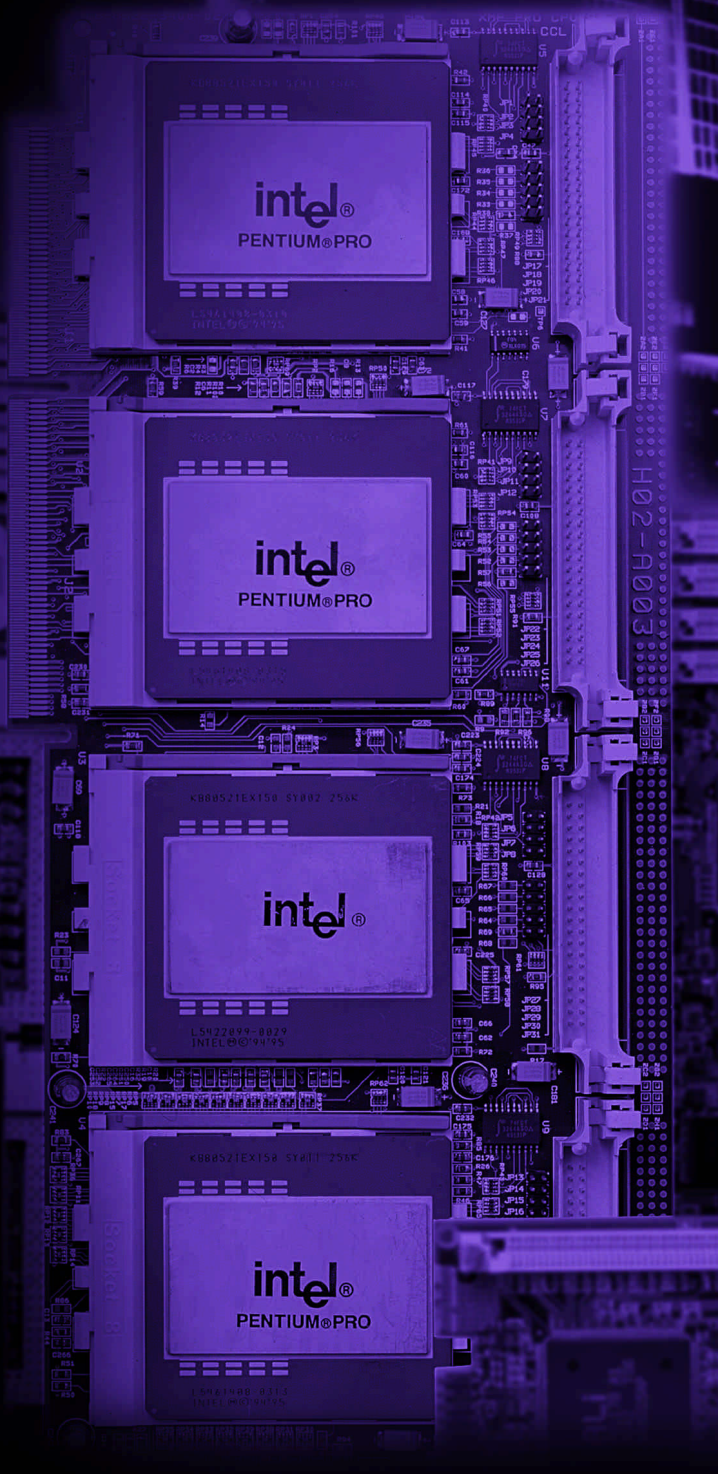
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